

What is claimed as new and desired to be protected by Letters Patent is set forth in the appended claims.

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1. A water jet device for separating of a biological structure, essentially comprising a pressure flow generator (1), an operatable control and automatic control unit (2) and a supply capillary (3) with a separating nozzle (14), wherein the separating jet exits from the separating nozzle (14), wherein the separating nozzle (14) is furnished with a nozzle channel (15) with a circular cross-section and wherein the separating nozzle (14) is disposed at the distal end of the supply capillary (3),

wherein the separating nozzle (14), as is known in principle, is disposed fixedly positioned and coaxial to the supply capillary (3) and wherein the nozzle channel (15) is furnished with at least one twisted groove (16) and wherein the number of the twisted grooves (16) and the diameter and the length of the nozzle channel (15) are placed in such a ratio to each other that the separating jet subjected to pressure is rotated.

2. The water jet device according to claim 1 wherein the slope of the spiral flutes (16) is dimensioned larger than the diameter of the nozzle channel (15) and wherein the spiral flutes exhibit a slope angle of from about 30 to 45 degrees.

3. The water jet device according to claim 2 wherein the spiral flutes (16) exhibit a rounded cross-sectional shape.

4. The water jet device according to claim 1 wherein the supply capillary (3) is equipped with one or several additional separating tools for mechanical working of the biological structure in the region of the separating nozzle (14) of the supply capillary (3).

5. The water jet device according to claim 1 wherein the supply capillary (3) is made out of a current conducting material and is connectable to a high frequency current supply device.

6. A water jet device for separating of a biological structure comprising a pressure flow generator;

an operatable control and automatic control unit;

A supply capillary connected to the pressure flow generator;

a separating nozzle attached to the supply capillary and wherein the separating nozzle is disposed at the distal end of the supply capillary, wherein the separating nozzle is disposed fixedly positioned and coaxial at the supply capillary ,

wherein the separating nozzle is furnished with a nozzle channel for forming a water jet to exit from the separating nozzle;

at least one spiral groove furnished in the nozzle channel and wherein the spiral groove and the diameter and the length of the nozzle channel are placed in such a ratio to each other that the flowing stream of water in the nozzle channel subjected to pressure is rotated and a rotating water jet is released by the nozzle channel.

7. The water jet device according to claim 6 wherein a slope of the spiral groove is dimensioned larger than the diameter of the nozzle channel and wherein the spiral groove exhibits a slope angle of from about 30 to 45 degrees.

8. The water jet device according to claim 7 wherein the spiral groove exhibits a rounded cross-sectional shape.

9. The water jet device according to claim 6 wherein the supply capillary is equipped with one or several additional separating tools for mechanical working of the biological structure in the region of the separating nozzle of the supply capillary.

10. The water jet device according to claim 6 wherein the supply capillary is made out of a current conducting material and is connectable to a high frequency current supply device.

11. The water jet device according to claim 6 wherein the nozzle channel has a circular cross-section modified by the cross-section of the spiral groove.

12. The water jet device according to claim 6 further comprising a second spiral groove disposed running parallel to the first spiral groove in the nozzle channel.

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